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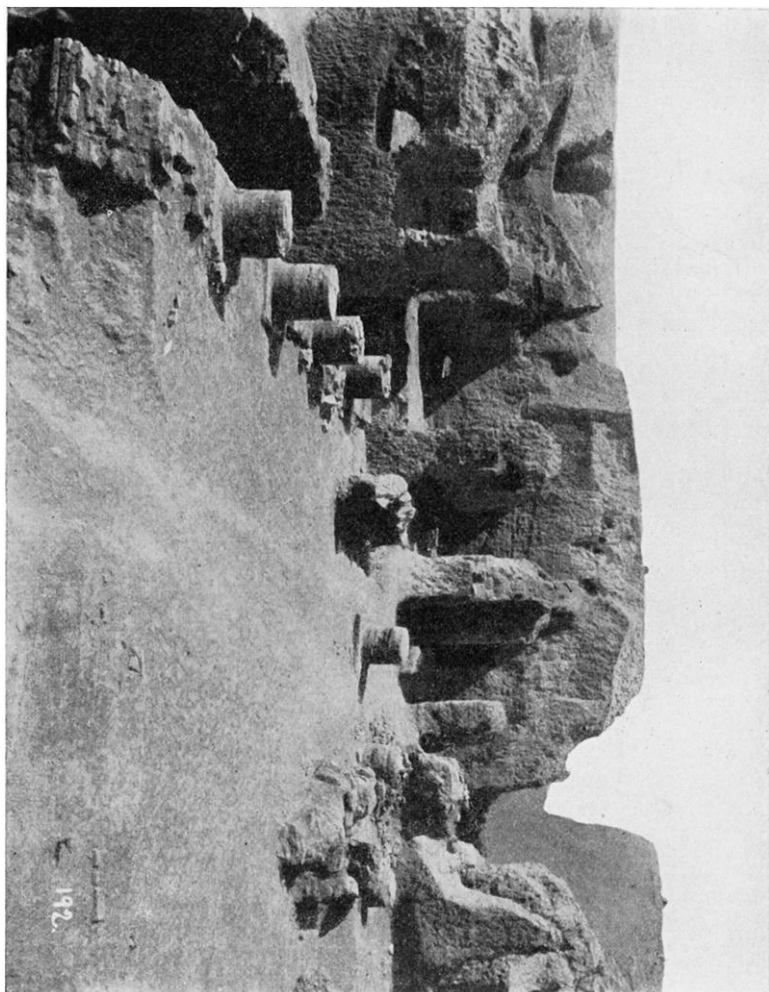
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THE MYCENAEAN PALACE AT NIPPUR

[PLATES XIV-XVI]

THE attention of students of the Mycenaean period, during the last few years, has been centred in the islands of the Mediterranean, where the excavations at Knossos and other sites in Crete have thrown new and important light on that age. So certainly has the sphere of Mycenaean influence appeared to be confined to the Mediterranean and its borders that its sudden extension to the centre of ancient Babylonia comes as an almost impossible revelation. Yet that is just what is meant by the discovery at Nippur, by previous expeditions to that site, of numerous votive steles, figurines, and other objects bearing the characteristics of the Mycenaean age. Now, in addition to all these, we have completely opened up a palace which has an arrangement of courts, halls, and passages exactly similar to that at Tiryns, and comparing favorably with it in size. At present this palace is the only one of the kind uncovered, but the further excavation of the mound in its immediate vicinity is sure to disclose others of the same type. It is impossible that a solitary example of a Greek house should have been erected in a foreign land, where all the customs and systems of building were contrary to the life suggested by the plan; and, taken in connection with the objects found all over the rest of the site, we must conclude that the building formed a part of a settlement on the ruins of the older Babylonian city. The object of the present paper is to give somewhat briefly the position and characteristic features of this palace,

FIGURE 1.—THE PALACE AT NIPPUR, LOOKING OVER THE GREAT COURT FROM THE NORTHEAST.



and some of the reasons for assigning it to what I feel is its true place in architectural history.

Naturally, we turn at once to the strata for evidence of dates. But we must take into consideration several features of this stratification which are peculiar, not only to Nippur, but to many of the sites in other parts of the country, where we have a long succession of different periods represented by buildings.

First, we must note that, while the earlier towns were built on the unobstructed horizontal surface of the plain, the later ones had to conform to the gradually accumulating *débris* of the successive periods. So that while we have the first few strata comparatively parallel to one another, the later ones become more and more irregular, until, at the close of its existence as a dwelling-place, Nippur had the appearance of many a town of the middle ages, built upon and around a hill, tumulus, or mound. The last period in many cases will be but a few feet above one of the very earliest, so that unless we make due allowance for this conformation, we are apt to confuse the different strata and their dates, especially as, in the case of the palace described in this article, we have practically no dateable objects belonging to the building itself to guide us.

Obviously our safest plan is to take a point near the highest part of the mound, where the successive strata have the truest relation to each other, and where we can obtain the perpendicular depths most correctly. It is by such methods that we have been able to show that the palace belongs to a period considerably older than the late date given to it as a Parthian palace, for we fortunately have records of perpendicular cuts made in or next to the palace by the different expeditions. To these we shall now turn.

Dr. Peters, in command of the first two campaigns, 1889-90, took his measurements from the surface of the mound — which he found to be 24 m. above the level of the plain — downward. Dr. Haynes, during the third campaign in 1893-95, sinking a perpendicular shaft near to the outer wall of the palace for the

purpose, reached virgin soil 24 feet below the plain level, and from this level he measured his strata. We, in 1899-1900, took our own measures from the level of the court of the palace upward, since we did not concern ourselves for the time with the underlying strata. All these systems of measurement seem confusing at first, but if we reduce them all to feet, for convenience, and draw them all out to the same scale side by side, we reach some very tangible results. This has been done

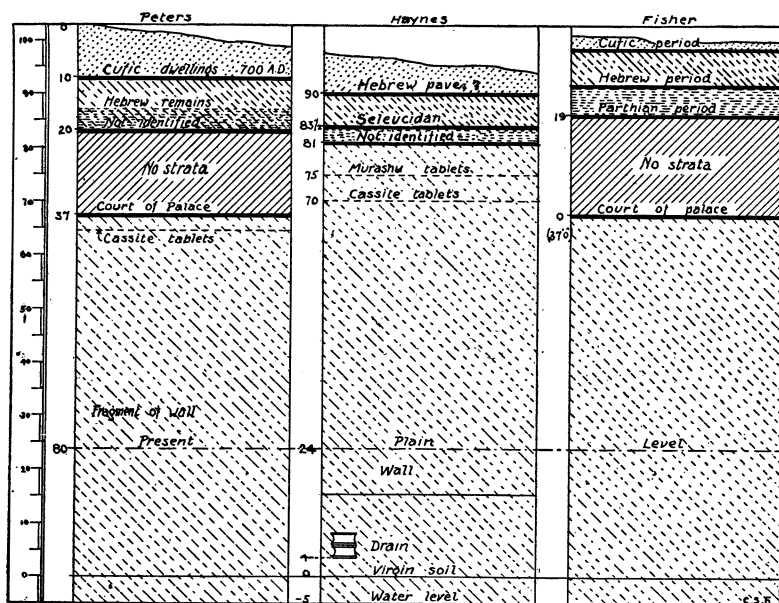


FIGURE 2. — COMPARATIVE DIAGRAM OF STRATA OVERLYING THE PALACE.

in the diagram, Fig. 2, in which the first division gives the results of Dr. Peters, the second, those of Dr. Haynes, and the third, my own.

Dr. Peters found a pavement 10 feet below the surface, which, from the numerous Cufic coins and other objects he found associated with it, he could safely say represented the Cufic stratum, *c.* 700 A.D. Ten feet below this he found a second pavement, to which he was unable to assign any name or date. Now, between these two he found a stratum full of

inscribed Hebrew bowls, obviously not belonging to the Cufic period above and certainly not to the pavement below them. As I shall show later, this was the result of one of those inevitable accidents common in excavating; for it really was a third stratum, of which he did not find a pavement because at the point he sank his trench there was a road or unpaved court of a house, so that the stratum was represented solely by its pottery. The level of the palace was 17 feet below the lower of the two pavements, and there was no trace of any further walls or buildings in all this depth. Just below the level of the building he came across a large collection of Cassite tablets, numbering nearly 250, in fine condition, and showing by this and by their being unscattered and of the same period that their position represented approximately the true depth of the Cassite era, *c.* 1280 B.C.

Dr. Haynes found the remains of *three* pavements in a space of about 9 feet, corresponding to the 10 feet of Dr. Peters's pavements. He was, however, uncertain about the dating of any of them. The upper one he supposed to be Hebrew, the next, Seleucidan, and the lowest he did not attempt to date at all. As his shaft was outside the limits of the palace, he naturally did not find any portion of its pavement, but he did find one very important thing. Six feet below his third pavement he came across a collection of fine tablets belonging to one period and *in situ*. This collection is the one that has since become famous as the archives of the Murashû Sons, a business firm of Nippur about 450 B.C. Another collection of Cassite tablets nearly as extensive as those found in 1890 was found 5 feet below these.

In the last campaign (1899-1900) I found three pavements just as the others had discovered. Seventeen feet above the palace level was a pavement which I have called Parthian. A Hebrew pavement was 5 feet above this, and yet a third, the Cufic, another 7 feet above the Hebrew one. Between the lowest or Parthian and the palace levels there was no trace of walls or building construction except here and there a well,

drain, or watercourse. It is evident at once that the three pavements disclosed by Dr. Peters, Dr. Haynes, and myself, in excavations made at widely different times, quite independently, and in separate trenches or cuts near the summit of hill I, containing the palace, must represent the same three periods. Taking into account the convolutions of the mounds I have already spoken of, we cannot consider the variation in the figures given for the space between the three pavements as prejudicial to this view. Dr. Peters makes this distance about 10 feet, Haynes, 9 feet, and where I measured, it was 12 feet. Discarding Haynes's nomenclature, we can now say that the upper stratum represents the Cufic period, *c.* 700 A.D.; the second, the Hebrew, from *c.* 200 A.D.; the third, the Parthian, from *c.* 200 B.C. onward.

The name Parthian I assign to this layer mainly because of the character of the burials found below it. During the first two campaigns Dr. Peters unearthed over the palace a large number of tombs and burials, of which I have no personal knowledge, but which Dr. Peters says as a rule bore the unmistakable evidences of Parthian origin. In our own work we opened up some sixty burials of the slipper and other types. Dr. Hilprecht assigns twenty of this number to the Seleucid and Parthian eras, from 300 B.C. to 300 A.D. Not only was not a single burial out of all the sixty found *below* the palace, but the lowest was more than a foot above the highest point of its pavement. As we cannot say the bodies were buried from a level *below* them, it is certain that they belong to a level *above* where they were found. Another important point is that the lowest of the slipper coffins found display distinct Greek influence in their ornament, some having heads with wavy hair, and others figures playing upon single and double pipes.¹ Still others had whole figures with more grace in their composition than was usually displayed in Mesopotamian work. These burials filled the 17 to 19 feet between the third period and

¹ These belong to the short period of Greek occupation after the conquest and also to the Seleucid era immediately following it.

the level of the palace. Since it is improbable that burials were sunk as much as 12 to 16 feet below their own level, we must conclude that for a long period of years the site of the palace was not used for dwellings but as a graveyard, the coffins being sunk through the débris of the more ancient building below, whose presence was not known to the inhabitants at that date. Proof of this is the fact that in several instances the slippers were placed diagonally through or partly buried in a wall, showing that the presence of the wall was unsuspected when the shaft was dug. This burial period extended from a time after the palace had fallen into ruin up to the time of the building of the next pavement above it. Burials still continued after that, but took place apparently from the rooms and courts of the later buildings themselves, while they were still occupied, a custom still prevalent in eastern cities.

We can now note the facts disclosed by the strata. First, we observe that there were at the end of the history of Nippur three periods succeeding each other comparatively swiftly, and covering a space of about seven to eight hundred years. The site during this time was occupied continuously, as we may infer from the slow accumulation of débris, which here on the summit of the mound would not be allowed to fill up the streets to the degree it would in the earlier periods of the city, when the level was still horizontal. Then the inhabitants had to leave the rubbish of their daily life lying in the corners and in the streets, but in the later times it was carried to some unoccupied edge of the mound, and dumped in a common rubbish heap.

Preceding this was the period when the site was not occupied by dwellings, but given up entirely to the disposal of the dead. Just how long this lasted we cannot say, but from the oldest of the burials it would appear to be not earlier than the Greek conquest in 330 B.C. We must, then, account for the great accumulation of débris under which the palace lies buried by a still longer period of time, during which the mounds of Nippur were abandoned entirely.

The walls in the western corner of the palace still have a height of 9 to 10 feet, in almost perfect preservation. This condition would not be possible if the building had not lain a long while in ruins and was slowly covered up by its own débris. We should find the upper portions of the walls torn down, the whole of them levelled off for the walls of the new building to rest upon, and the old materials reused for building purposes, just as we find it to be the case in other parts of Nippur, where the destruction of one building was succeeded immediately by another occupancy. The other corners of the building are not so well preserved, however, and the explanation of this I have been fortunate enough to find in the structure of the walls still *in situ*. From the time that the building was first uncovered it has been accepted as a fact that the palace was destroyed by fire. The crude clay of the walls was baked red, the plastering had become exceedingly friable as a result of fire, and in several of the rooms there were traces of burnt grain. This view of the case was accepted fully by me as the correct one until the complete uncovering of the rooms in the west corner disclosed some curious additional evidence. To understand this, one must know that all the main walls inside and outside of the palace were constructed of unbaked bricks about 12 inches square and 5 inches thick. Over these was applied a coating of mud plastering. All the columns and antae in the building were of baked brick covered with lime mortar. Now all over the palace these inside walls are reddened to a depth of from 1 to 5 inches, leaving the inside still the grayish brown of the original clay (see Fig. 3, A). This is the same in the west corner, but with a curious addition. Here the walls have two distinct layers, so to speak, of red. The inner part is unbaked, with a layer of reddish, crumbly clay on each side. Then there is a second layer of good fresh clay on each side, with a final reddish layer outside, as shown in Fig. 3, B. This at once proved to me that we had to consider two destructions by fire and not only one. Before this I had been considerably puzzled by the presence of

a large quantity of burnt grain found in the room marked XXI on the plan (PLATE XIV). It could not have been stored there while the palace was occupied, because room XXI appeared to be the only outlet for all the rooms to the south of it, as well as the key to the system of communication between the eastern and western halves of the palace. Further excavation fully established the importance of this room beyond any doubt. How, then, are we to account for its being so full of burnt grain?

The discovery of the evidences of a double destruction supplied the clew. In the rooms in the western corner only does this double trace occur; in all the others there is the simple evidence of but one fire. Further searching disclosed the remains of a doorway cut in the main northwest wall at the point *a* in room XXXIX. The sill of this was considerably above the former floor of the room, and on a level with the top of the hearth in the adjoining room (XXXV). It was

clear that after the first or great fire the western part was rebuilt, either at that time or soon afterward, and used as a small dwelling, with several of the rooms, especially XXI, which was now at the rear of the new house and hence the most secluded, set apart as storerooms. Naturally, the old walls, where damaged by the flames, were reënforced and patched, restored to the required height, and then covered with a new roof. Then this in its turn was destroyed by fire, and it was at this time that the grain was burnt. Just as we might expect, this burnt grain was found only in the rooms in

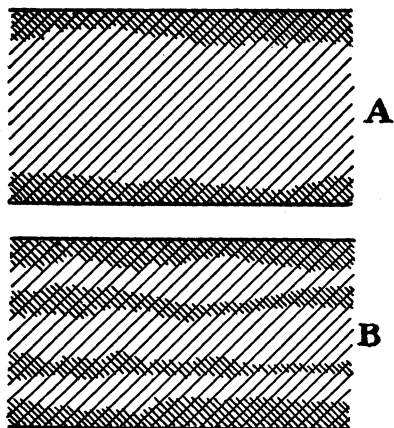


FIGURE 3. — EFFECT OF BURNING ON THE WALLS.

These diagrams show the appearance of the walls in the main part of the palace (A), and those in the rebuilt western corner (B). Cross-hatching indicates red baking.

this west corner, as indicated by the dotted patches on the general plan (PLATE XIV).

These two periods of the building must really be considered as one, and these differences do not affect our chronology at all. This hypothesis accounts for the better preservation and height of the remaining walls of the one part of the palace as compared to the others. The east side of the building, and especially the east angle, has suffered most from the weather, being exposed to the washings of a gully which evidently owes its origin to a surface conduit which formerly drained the great court on this side.

We can surely allow for at least so long a period between the destruction of the palace and the third pavement as intervened between that and the two superimposed strata. On the other hand, we have the building resting directly upon the remains of the Cassite period, *c.* 1200 B.C. Eight hundred years before the Parthian era would give us an outside date of 1000 B.C., so that we must place the construction of the palace somewhere between these two dates, *i.e.* between 1200 B.C. and 1000 B.C. This corresponds to the date of the latter end of the Mycenaean age in Greece, and we have abundant evidence, not only from smaller objects from various parts of Nippur, but in the detail of the palace, that there was in existence there at that time an influence in art too utterly un-Babylonian and too closely Mycenaean to allow any room for doubt as to whom we are to thank for the erection of the interesting edifice.

As I have said, no pottery or other small objects that would enable us to date more exactly came from the palace itself. Let us, therefore, turn at once to a review of some of the objects from the other parts of the site. Among the many, space allows but a few to be illustrated. There are figurines of men and women in Greek costume; warriors; musicians; a stele depicting Orpheus playing upon his lyre and attracting round him a group of various animals with all their limbs admirably drawn; steles of religious scenes belonging to the

peculiar Mycenaean worship; and a host of others covering nearly every occupation.

Some of these belong to the last Greek period of occupation at Nippur, during the ten years following the conquest by Alexander in 330 B.C., but the difference in type readily distinguishes these from the older ones. These examples of the later period will be given first.¹

Fig. 4 is an exquisitely modelled little group of lovers in terra-cotta. The surface is worn smooth in several places and portions of the lower limbs are broken away, but the graceful folds of the drapery and the well-modelled anatomy showing through it are well preserved. It is one of the best examples of the later pure Greek period at Nippur. In contrast with the following specimens I give in Fig. 5 a fine example of true Babylonian work. It shows, despite a certain character in the expression of the face, the fast hold conventionalism had upon



FIGURE 4.—A PAIR OF LOVERS.
TERRA-COTTA FROM NIPPUR
($\frac{1}{2}$: HEIGHT, 5.25 INCHES).
LATE GREEK PERIOD.

the artist of that time. His work was forced into certain established channels, his subjects were limited, and his treatment of them even more circumscribed. This shows itself here in the prim, straight lines of the hair and beard, which, while certainly copied from the then prevailing fashion, are

¹ My object in introducing here a description of the objects belonging to the later Greek period is not only to show their marked difference from the Babylonian type, but more especially to contrast them with the objects of the first Greek or Mycenaean period described farther on. These latter, while not found in the palace itself, definitely establish the existence at Nippur of a Mycenaean stratum. Since the palace displays the same characteristic influence architecturally as do these objects artistically, we can consider them together.

drawn without any attempt at a natural rendering of them. Beside this place the little head in Fig. 6. While it is not so



FIGURE 5. — BABYLONIAN TYPE OF HEAD FROM NIPPUR ($\frac{1}{2}$).

good a type of the Greek period as the other is of the Babylonian period, it shows great superiority along two lines — individuality of treatment and faithful rendering of detail. Another fine little figurine is given in Fig. 7. The head is missing and the rest of the figure is chipped. The figure is that of a Greek youth with his chlamys flung over one shoulder. The right arm is broken off, but apparently hung straight down at the side. The left arm rests upon his hip, and over it is flung the end of the drapery. On this side stands an animal, the details of whose head are not quite distinct.

The most noticeable thing in all Babylonian work is the symbolism embodied in some way in every piece of sculpture or plastic work. Figures of Bel and Beltis predominate. Bel, with his symbols of overlordship clasped tightly in his hands, and Beltis, emblematic of life and reproduction, holding a child in her arms and sometimes nursing it, are found everywhere. In these the sexual parts are always strongly emphasized, the lower part of the abdomen being usually made in the shape of a triangle and deeply marked (Fig. 8). But there is never any attempt to infuse life into the pose of the figure, and with the exception of the faces in



FIGURE 6. — GREEK HEAD. TERRACOTTA FROM NIPPUR ($\frac{1}{2}$).

some such unusual piece as shown in Fig. 5, the whole series is most monotonous. Now we find just such figurines occurring at Tiryns and other Mycenaean points, showing all the characteristics of this crude Babylonian art and lacking in the idealism later infused by the Greeks into their work; and we can at once accept this as a proof of a close relationship between the two countries, and an interchange or commingling of their workmanship at a time when each country was making and holding to its own ideals. The crude Babylonian type never left a permanent imprint on the soil of Greece, but, on the contrary, we find that the influences planted at Nip-



FIGURE 8.—CHARACTERISTIC
FIGURE OF BELTIS ($\frac{1}{2}$:
HEIGHT, 4.70 INCHES).



FIGURE 7.—GREEK YOUTH.
TERRA-COTTA FROM NIP-
PUR ($\frac{1}{3}$: HEIGHT, 3.90
INCHES).

pur and at other sites, as the further investigation in Babylonia will show, held their own for a considerable period after their originators had been swept away, and now and again down through the succeeding régimes we find them cropping out. All the latter work is merely a copying of such Greek work as remained to them.

We now come to some examples of the older Greek period. The objects of this series were found, as were the others, scattered all over the mounds at a depth much below the later Greek work, and belonging to the same level as the palace. One of the most interesting examples is shown in Fig. 9. It is in stone and apparently belongs to an entire figure of which the

rest has unfortunately not been found. The head-band, the wave-scroll ornament on the cap, and the beard are characteristic of Mycenaean work. From a burial of this period comes the gold face-mask identical with those discovered at Mycenae (Fig. 10). We cannot hope to find many such specimens, because Nippur, unlike the great capital city of the race,

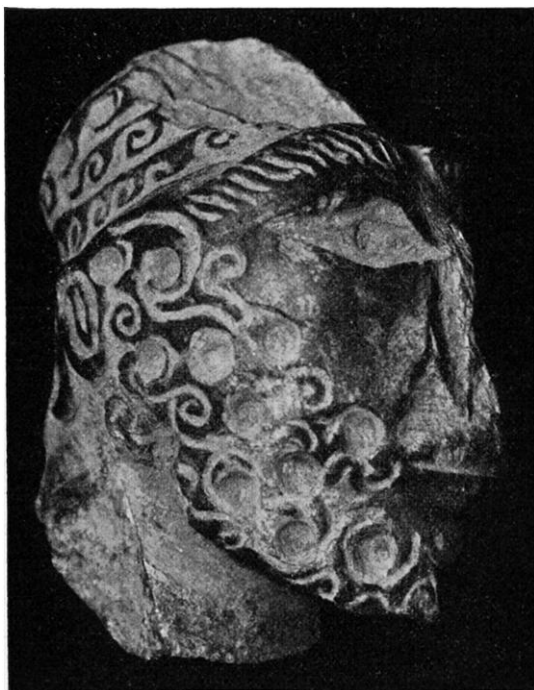


FIGURE 9.—HEAD OF MYCENAEAN WARRIOR IN STONE.
FROM NIPPUR.

could not have been much of a settlement in either of the Greek periods and would therefore have only a small number of people sufficiently important to be worthy of elaborate burial. The evidence of this one is not to be disregarded, however, for we would not find it used by a people who did not share in the customs associated with it.

Perhaps the most remarkable object found is that in Figs. 11 and 13. Here is the exact representation of the Mycenaean Tree and Pillar cult on a small terra-cotta stele. Figure 11 is a photograph from a cast now in our Museum at Philadelphia, the original being kept at Constantinople, and Fig. 12 gives a similar scene on a lentoid gem from Mycenae. Figure 13 was drawn directly from the cast in Fig. 11, and gives more of the detail

not so plainly discernible in the cut from the photograph. We cannot for an instant suppose that these objects, which are but selections from a great number of similar finds, are accidental, or are perhaps objects imported as curios from Greece into Babylonia. They are found, not in any one isolated spot, but in private houses, in graves, in public places, showing that they were in



FIGURE 10. — GOLD FACE-MASK FROM NIPPUR.

common use and held in some considerable degree of estimation by the inhabitants, who would not have made use of them unless they were familiar with them and understood their value and real significance.

THE PALACE

The palace is practically square in plan. The northwest and southwest sides, which are the only ones remaining in their entirety, are respectively 172 feet $2\frac{1}{2}$ inches and 169 feet $\frac{1}{4}$ inch

long. The diagonal of the building is $19^{\circ} 30'$ east of north, being so placed to take full advantage of the warmth of the

sun in winter and the cooling breezes in summer, which would naturally have a greater effect when two instead of only one side was turned toward them.

The angle between these two walls is an exact right angle, and while it was evidently the intention of the builders to make all the angles so, a slight distortion of the sides of the central court makes the plan slightly irregular. The axis of the northwest row of col-



FIGURE 11.—SACRED TREE AND WILD GOATS.
TERRA-COTTA STELE FROM NIPPUR ($\frac{3}{8}$: SIZE,
3.50 INCHES BY 2.95 INCHES).

umns is parallel with the northwest wall, but the axis of the southwest row makes an angle of $90^{\circ} 10'$ with it, and this in turn is at an angle of $89^{\circ} 30'$ with the southeast row, with the result that the rooms in the south corner are not rectangular. The outer wall on the southeast side follows the corresponding line of the court, and so apparently did the fourth side parallel the northeast side of the court, although we have but a fragment of it remaining.

The outer walls on three sides are decorated with shallow pilasters, while the fourth side, toward the canal, is much



FIGURE 12.—SACRED TREE AND
WILD GOATS ON A LENTOID
GEM FROM MYCENAE ($\frac{3}{8}$).

(From the *Journ. Hellen. Stud.*
XXI, p. 154.)

heavier and simpler in design, in accordance with the character of a retaining wall to the terrace which existed on this side, as is shown by the remains of buildings of the same period as the palace on a much lower level at the foot of the wall, and nearly against it.

The plan can readily be divided into two parts (PLATE XIV). The eastern half, the *andronitis*, grouped on the axis A, is



FIGURE 13. — FULL-SIZE DRAWING OF THE STELE SHOWN IN FIGURE 11.
BY HERMANN FABER.

marked by a general spaciousness and appearance of publicity and state. Its court, vestibule, and hall are large and well lighted. On the contrary, the effect of the western part (G) is privacy and domesticity. There is a noticeable absence of decoration and display; the rooms are smaller and more compact. It is impossible that these two parts are separate houses, for not only have they but one common entrance, at I, but the

two are closely connected by the passage XVII. The fact that this latter passage is protected by strong doors at either end does not argue against this view, for it was an arrangement by which the inner part of the house could be kept more private during the presence of strangers in the public apartments.

The single entrance I have mentioned is on the northwest side. Fortunately, it was so completely uninjured by the ruin of the rest of the palace that we could secure a very correct idea of it. The doorway is 5 feet 6 inches wide, and placed in the centre of one of the decorative pilasters. Three broad, low steps, constructed of baked brick, led up to it (Fig. 14). The

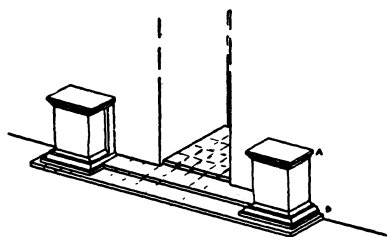


FIGURE 14.— PERSPECTIVE OF ENTRANCE OF PALACE.

lowest of these forms a base for the entire feature, and the second, by returning around the fronts of the two pedestals placed at each side of the opening, forms a plinth block for the mouldings composing their bases. The pedestals are carefully constructed of baked brick,

and their rough faces finished with a layer of fine stucco. The face of each, instead of being perpendicular, has a graceful curve outward from the base. Both the mouldings of the bases and caps have the oval form characteristic of the Greek work and not the simpler semicircular contour common to the Roman curves (see Fig. 15). The whole has a height of over 4 feet, but the wall above is so damaged that it is impossible to determine what rested on the pedestals. The door admits to the general vestibule (I) of the palace, from which two doors on the left and right sides of the room lead to the *andronitis* and *gynaekonitis* respectively. The doors in the vestibule and the two anterooms (II and XVIII) adjoining it are so placed that a view of the interior of the palace could not be obtained by any one standing outside in the street, or even in the outer vestibule itself.

We will first describe the apartments of the *andronitis*. Passing through the special anteroom (II), we reach a sort of large loggia (III) corresponding to the *prothyron* in the earlier types of Greek house. Its whole southeastern side is open to the great court (IV), the main wall of which is carried over the opening on two elliptical columns *in antis*. There is no pavement in this loggia, nor, indeed, in any of the rooms of the palace, the floors being composed of clay well worked down and rolled. Edges of steps where most wear would come were protected by curbs or edgings of baked brick one or more rows in width, such as we find here running under the columns along the low step which leads to the level of the colonnade around the great court. This peristyle has been considerably damaged by the construction within its limits of burial vaults in later times. In plan, three of the sides are well preserved, but in elevation the columns and corner piers remain standing only from two to four feet. A portion of the foundation belonging to a column on the fourth side determines the position of that side, and shows that the colonnade extended around this side as well and had the same width as on the other sides. This floor was also unpaved, except for a curb of two rows of bricks with a space between them running between the columns. On the southeast side there were four rows of bricks laid closely together. This curbing was continuous under the columns and was but one course in thickness. Below each column was a foundation of baked brick 4 feet square and extending 3 feet below the level of the colonnade. By

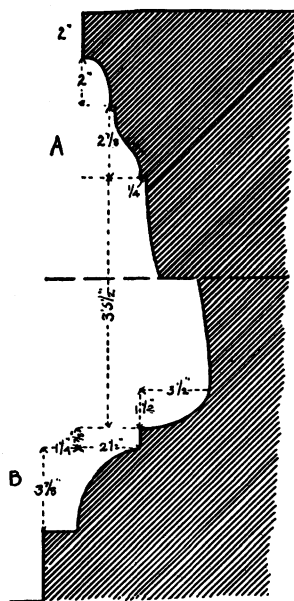


FIGURE 15.—DETAILS OF PERSPECTIVE OF ENTRANCE OF PALACE. (See Fig. 14.)

a study of all the lower portions of columns left standing, and from the two fallen ones at *a* and *b* on the plan, of which *a* was complete, I have ascertained the original height and system of construction of the columns. The diameter at the base was 2 feet 9 inches, and the height about 13 feet 6 inches, a ratio of base to height of approximately 1 : 5. There were fifty courses of bricks in each column, exclusive of the capital, and for the first seventeen of these the sides were perpendicular. Above this an entasis gradually lessened the diameter until at the top course it was only 2 feet 2½ inches, or nearly in the ratio 3 : 4 as compared to the base. These are the proportions of the Doric column of the earlier type, and, as we shall see later, the columns were crowned with the unmistakable Doric cap having the earlier form of echinus.¹

The builders were accustomed to using stone, so that when they were forced to use clay for the same purpose they had to display considerable ingenuity in order to obtain with it columns of the desired form and size. Having decided from the rest of the building the height of column required, their hereditary instincts of proportion compelled them to have a certain diameter at its base and top. They moulded the clay into the shape of sectors of a circle and baked them, making them all of a common size to economize time and labor (Fig. 16). These they used to construct their columns. It was puzzling to find that the lower courses of the columns contained not only a certain number of these sectors, but always had a small extra fragment of brick inserted, with the apparent object of giving a greater diameter to the column, but that this arrangement was not uniform throughout the entire column. For instance, in

¹ These columns are not of the form exclusively considered as Mycenaean. It is now becoming more and more widely recognized that the Doric type is not widely different from the Mycenaean, but has so many points in common with it that we can now say it owes its origin to it. Hence at such a late date in Mycenaean art as the years of the emigration of part of the Mycenaean people, slightly subsequent to which I place the erection of our palace, it is not surprising to find that the columns had already reached the somewhat crude but unmistakable Doric form which is found in the palace at Nippur.

the lower seventeen courses there were six sectors with a wedge (A on PLATE XV). At the top there were five sectors without a wedge. A study of the courses between showed that the entasis was obtained by gradually decreasing the size of the wedge above the seventeenth course until just six sectors completed the required diameter. Then five sectors with decreasing wedges were used until at the top there were, as I have said,

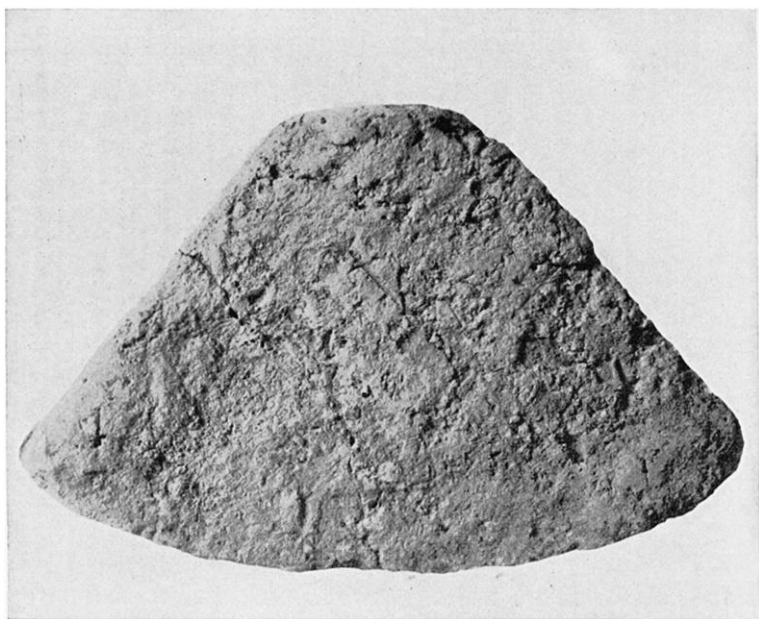


FIGURE 16. — SECTOR FROM A COLUMN OF THE PALACE.

the five single sectors (B on PLATE XV). It is evident that the builders desired to have the top built as solidly as possible to make a sound base on which to support the girders and beams of the roof, whose direct weight came at that point. If they had made the sectors large enough to form the bottom diameter without the use of wedges, they would have been unable to form the top courses without using a specially large wedge, thus defeating their purpose. So the sectors were designed to make a good joint at the top, and the courses at the bottom,

where the mass of the shaft above made it unnecessary to have such careful jointing, were left to take care of themselves. The shape of the sectors resulted in a large space being left in the centre of the column which was filled with fragments of broken bricks. The column was trimmed off with some sharp tool and then finished with a coat of stucco. A brick with the stucco still in place is shown in Fig. 17, *b*.

The construction of the capital is equally interesting. It was composed of bricks cut on their edges to form the contours of the Doric cap. These were not moulded, but were cut after the bricks had been baked (see Fig. 17, *a*). One series of bricks

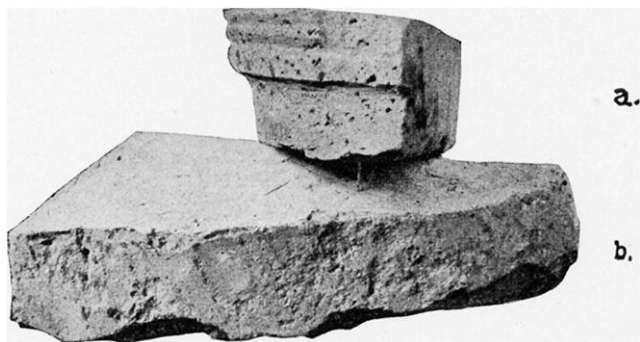


FIGURE 17. — (*a*) BRICK CONTAINING FILLETS OF CAPITAL; (*b*) BRICK SHOWING LINE OF STUCCO FINISH.

contained the fillets which joined the necking of the column with the echinus above, and other bricks had the outline of this echinus. Of the fillet bricks we found two distinct shapes, each with exactly the same moulding, showing that they formed part of the same structure. One of these was sector-shaped like those used in the body of the column, while the other appeared to have been cut from a half square brick. Both of these shapes with full dimensions are given in Fig. 18. I found that when a pair of them were placed as shown in this figure, their combined ornamented edges formed part of the circumference of a circle with a diameter corresponding to that of the top of the shaft, with the addition of a slight projection

necessary to cover the edge of the stucco with which the rough sides of the latter were coated. At *c* (PLATE XV) is shown the whole arrangement of this capital. The echinus, of which we found but one unbroken specimen, was composed wholly of sector-shaped bricks. The absence of any bricks forming the square abacus leads me to believe that this was not constructed of bricks at all, but was most likely a large, thick piece of planking on which the girders of the colonnade roof rested

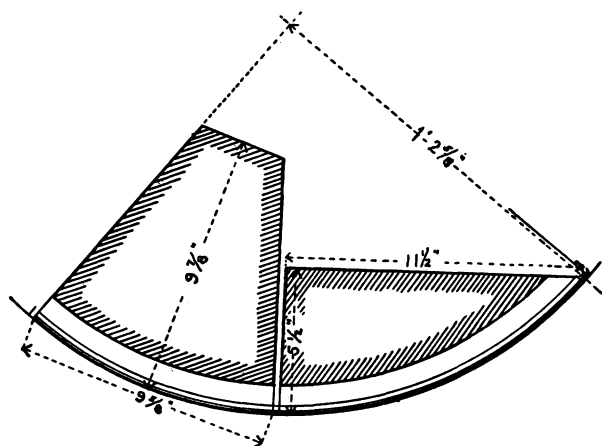


FIGURE 18. — SHAPE AND ARRANGEMENT OF FILLET BRICKS IN CAPITAL.

and to which they could be securely fastened. On the left of PLATE XV is the column restored with a suggestion of the system of roofing, based upon that employed in the country at the present time, evidently a survival from earlier periods. On the right is a full-size detail of the capital, showing the fillets, echinus, and abacus with their connection to the main part of the shaft and its stucco.

While the width of the colonnade was uniform on three of its sides, on the southeast side, in front of the door to the *prodomos*, it widened out. Here there was a broad pavement with the base of a large round structure (*c*) at one end. This was certainly the altar which we find in every Greek house, situated somewhere in the main court near its principal axis.

There is nothing left of the wall between the great court and the *prodomos* (v), and we can ascertain its proportions only from the extent of the pavement forming the step to the door. Charred fragments of the roof beams were found here and also around the edges of the colonnade. Naturally the centre of the court was open to the sky in order to supply light and air to the rooms around it.

The discovery of the threshold (*f*) of the *megaron* (vi) was as important as the finding of the front entrance. Three steps lead up to a door which is over 10 feet wide. At either side of the top step were door-sockets, and in the débris and ashes lying there were the remains of the bolts and bars used on the door. These are significant from the fact that they were entirely of iron while all the rest of the metal work in the palace was of bronze. This use of iron on the principal doorway of the palace is intelligible when we remember that at the period the palace was built iron was rarer and more valuable than bronze, the metal commonly used for weapons and implements. Iron was selected for the ornamentation of the chief door, just as silver or bronze would be in our own day. The whole of the front wall of the *megaron* is intact, or was before the portion shown by shaded lines had been removed by a trench during the early days of excavation. The rest of the walls are fragmentary. A portion of the rear outer wall gives us the depth of the room and parts of the two side walls give us the length. It was some 37 feet by 48 feet, a nobler hall than that at Tiryns. No traces of support for the roof were found, but I have indicated four columns grouped in the centre supporting an opening clerestory after the system used at Tiryns. This gave exit to the smoke from the low hearth which must have been here and also admitted the light which could not have come very well from the outer court through the dark *prodomos*. Various smaller rooms were grouped around the great court. Of these, two (vii and viii) were almost complete. Room ix, having its only outlet through the *prothyron* (iii), was evidently a small guard room commanding the entrance opposite. Rooms x

and XI were, with VII and VIII, sleeping rooms for the inhabitants. At the east end of the *prodomos* (V) a low step indicated a door to a room on a lower level than the great hall, and used with the several other restored rooms here served the same purpose. Figure 1 (on p. 404) is a view across the great court through the door of the *megaron*, in the foreground. Beyond, on the right, is the base of the altar with the columns of the peristyle behind it.

Near the south corner of the court there was a step with a door which opened on a long passage (XVII) connecting the main court with a small vestibule (XXI). The two door-sockets at either end of this passage enabled it to be securely closed at will against intrusion by persons in the great court. The vestibule (XXI) could be reached from the front door through the winding passages (XIX) by first entering the women's vestibule (XVIII) and then following the passage (XIX and XX). The smaller corridor (XX) was used as an anteroom to the group of slaves' rooms in the west part of the palace (XXXV to XXXIX), and kept the regular women's quarters apart from them.

We find, again, in vestibule XXI an arrangement of doors to prevent the curious from observing what went on in the women's court (XXII) like that employed at the front entrance. This court, as we have said, was much smaller and simpler than the main one. There is no colonnade, but only the open porch on the south side screening the women's hall behind it (XXIV). A flight of steps led up to the door of the latter, but no door sockets were found on its threshold. This whole group of court, porch, and hall is parallel to the similar group on the men's side and is arranged in the same order. To the east of the small court and connected with it by a corridor (XXV) were two rooms which deserve special mention on account of their importance. They were no doubt the private rooms of the owner. The inner apartment (XXVII) was the bedchamber and the large outer hall (XXVI) used for entertainment or receiving personal visits. The outer room was

on a lower level than the corridor or the inner room, a step leading down into it from the former and up from it into the latter. At its west end there was a single fragmentary column which probably supported a gallery over the end. On the opposite side of the corridor were two long storerooms (XXVIII and XXIX). Along the western side of the court were two more good-sized rooms, from one of which (XXX) there was a strong door leading to a small dark room (XXXI) which was the treasure room of the palace.

One of the most interesting features of this side of the building was the bathroom (XXXIV). This opened from the west corner of the court near the door leading to the passage to the men's apartments.¹ Its floor was tiled with baked brick, and there was a low rim around the sides formed by laying a row of bricks on edge. Both floor and rim were laid in bitumen, instead of mortar, and thickly smeared with it. From all sides of the room the floor sloped to a point in the centre opposite one jamb of the door, where a small round hole allowed the water to escape into a vertical drain made of the common round pottery sections. This was still seventeen feet deep.

The whole of the west corner was given up to a series of rooms belonging to a distinct group having its outlet through room XX. This was the regular working department of the palace. Room XXXV was a kitchen, with a raised hearth (*a*) in one corner, constructed of unbaked brick with a single course of baked brick on top. At one end was a ledge and in the middle was a spit composed of two pieces of stone, the upper one hollowed out, and having two grooves cut in opposite sides in which the metal spit turned. Two water jars stood leaning against the sides of the hearth.

PLATE XVI gives three sections through the entire palace as it was found. The first is on the axis (*a*) of the *andronitis*. The *prothyron* is at the extreme left. Next is the colonnade around the court, the missing fourth side of which is indicated by dotted lines. In the centre is the pavement before the door

¹ At Tiryns the bathroom was situated on the men's side of the palace.

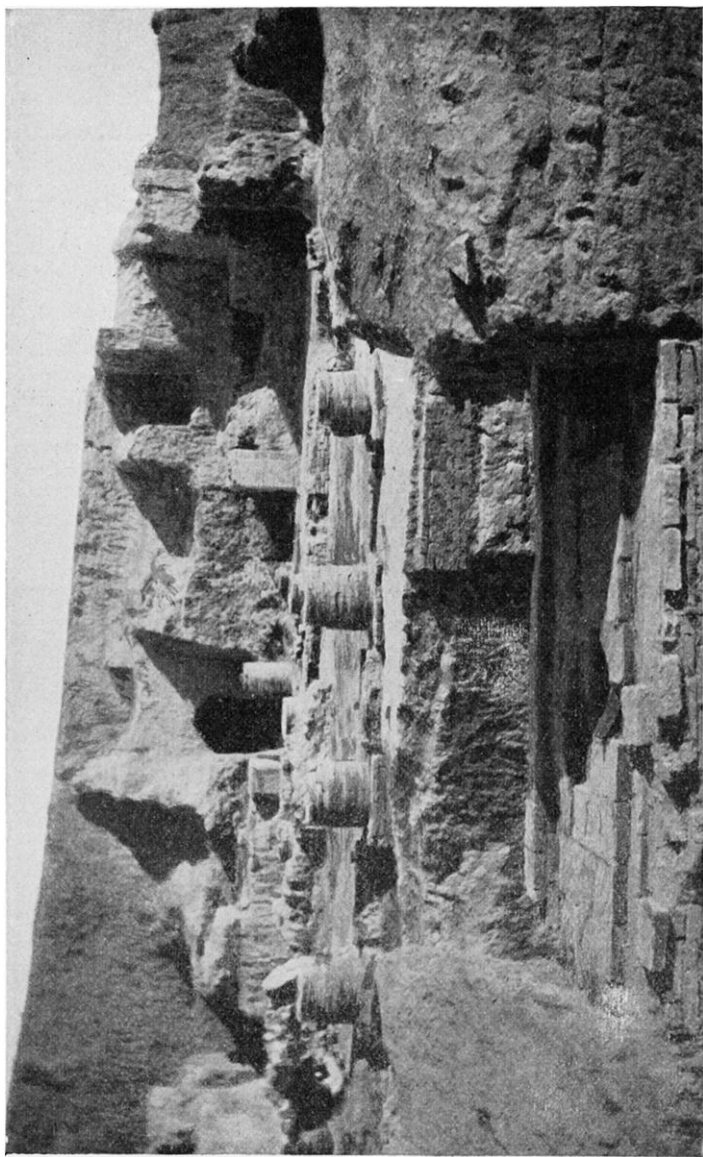


FIGURE 19. — VIEW, LOOKING NORTHWEST, THROUGH THE DOOR OF THE MEGARON ACROSS THE GREAT COURT.

of the *prodomos*, the floor of which has been removed by a trench. Beyond this are the steps and threshold of the *megaron*. The next section is parallel to the former one on the axis (*g*) of the *gynaeconitis*. Nearly in the centre is the bath, with the small court to the right of it and the kitchen a little to the left. The third section is through the centre of the great court perpendicular to the first one.

It is interesting to place side by side the two main groups of rooms of Tiryns and Nippur, as I have done in Fig. 20, both being drawn to the same scale. That of Nippur is restored according to the indications on the general plan in PLATE XIV. We find the same arrangement of court, vestibule, and hall in both plans. At Tiryns the sides of the court have isolated colonnades which, in the case of Nippur, have been grouped together continuously. The *aitthousa*, complete at Tiryns, still shows its position in our palace in the widening of the colonnade on the fourth side. The *prodomos* is identical even to the door on the left side. The *megaron* at Nippur is much larger and is placed with its long side perpendicular to the general axis, instead of coinciding with it, but it is in all respects the same. From both courts a passage leads off to the right toward the women's apartments, and in each case, these, although it is not included on these plans, have their long, tortuous connection with the single main entrance. All this goes to prove that Tiryns is not two distinct palaces, as Professor Percy Gardner has attempted to demonstrate, but is one palace divided into two sections, one for the men and for public use and the other the domestic or private part, as was originally claimed by Dr. Dörpfeld and others. The two parts were closely connected by the passage, but could by means of the doors in that passage be kept quite separate from each other.

The discovery of this interesting palace at Nippur, so closely following in its details the more widely known one found at Tiryns, gives us additional proof of the wonderful extent of the civilization which scholars, for want of a more exact name, have designated as Mycenaean. Further excavations at Nippur

and at other Mesopotamian sites may throw light on the dark question of the authors of this civilization, but I do not believe that such will be the case. Instead, I believe we shall find that this part of the nearer East was the last influenced by the Mycenaean culture and this was due to its being the place

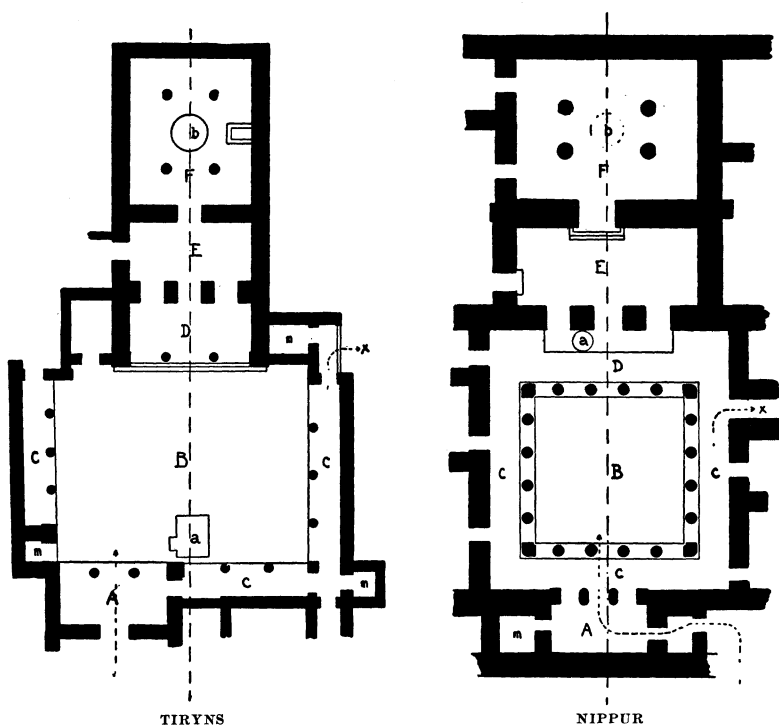
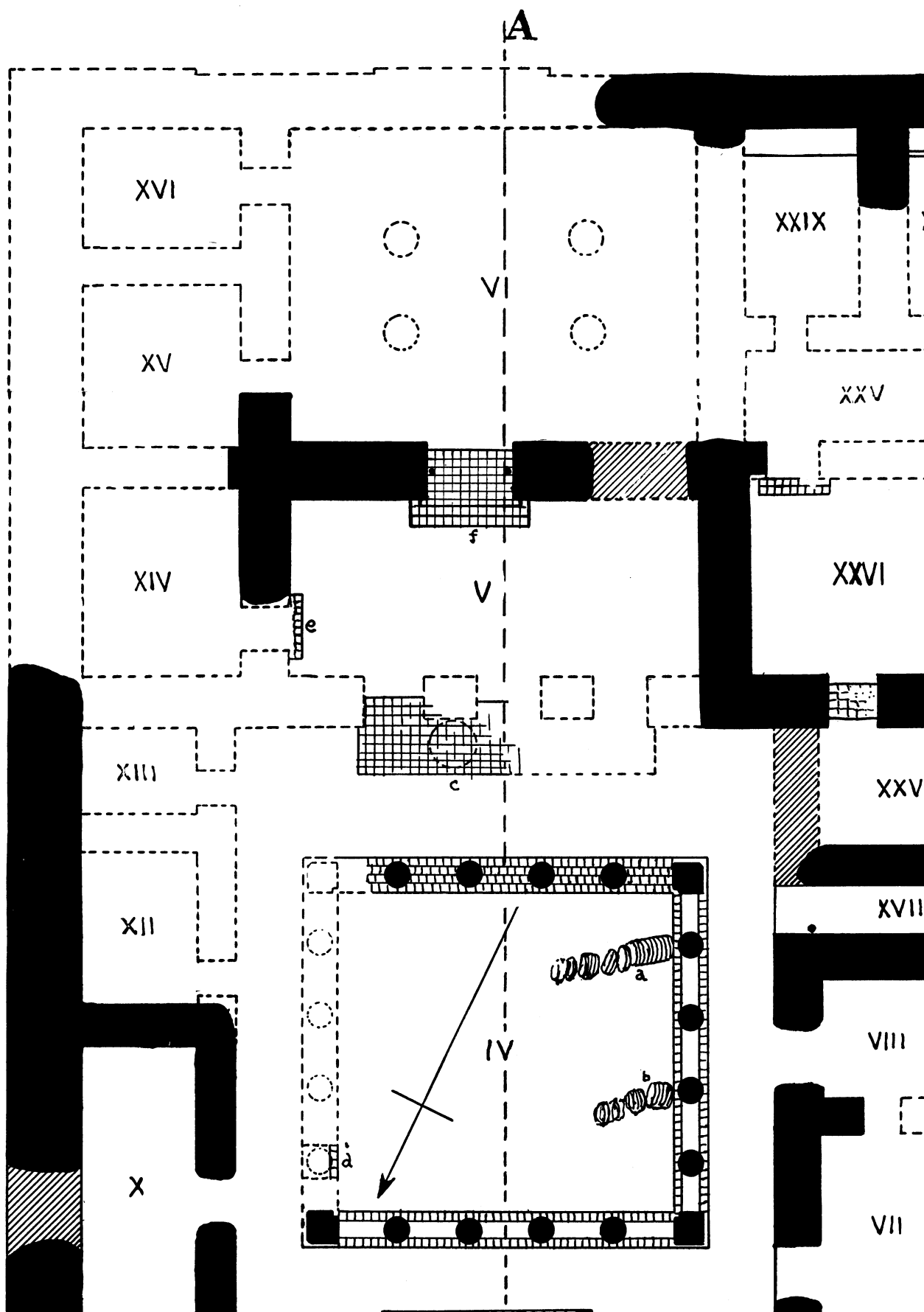


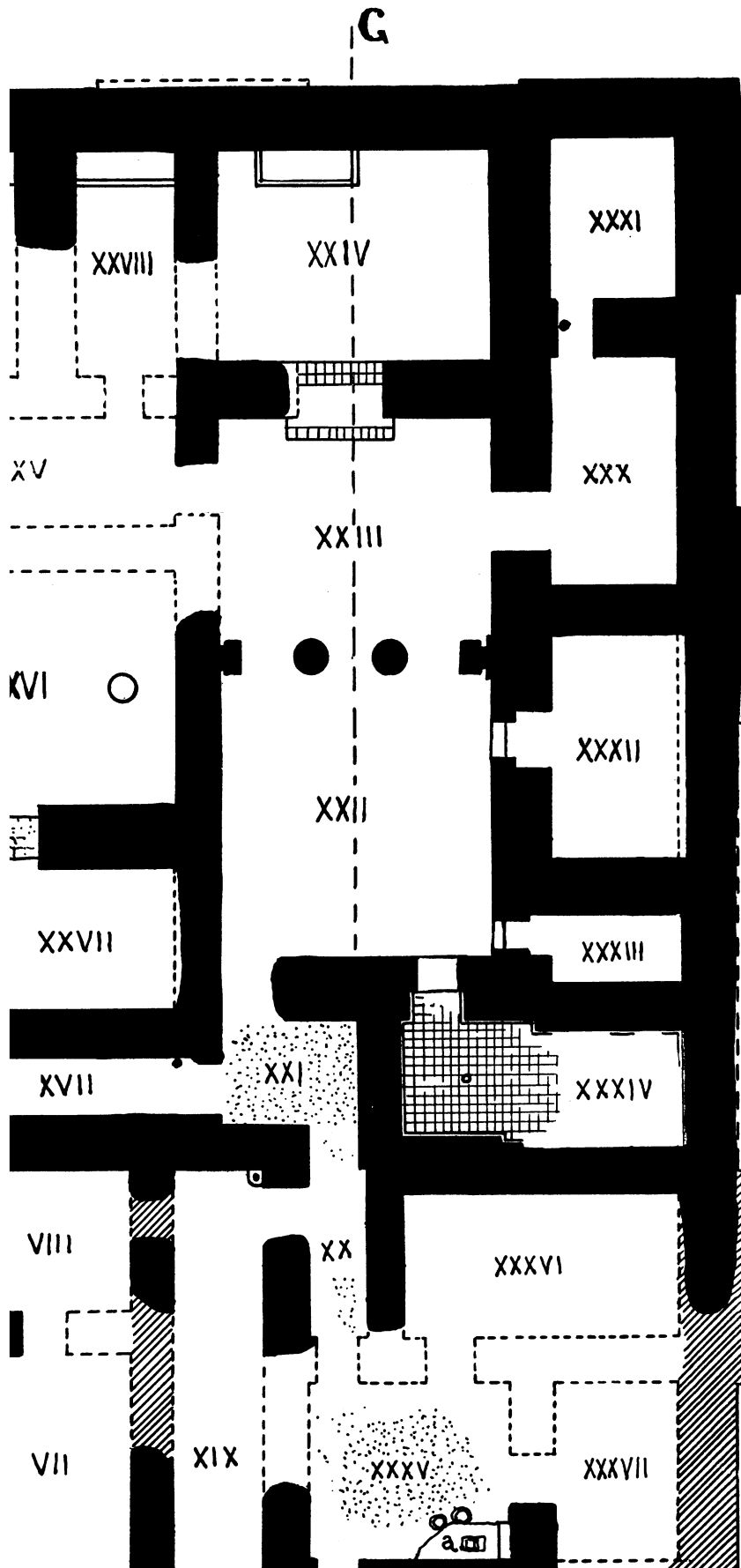
FIGURE 20. — COMPARATIVE PLANS OF THE PALACES OF TIRYNS AND NIPPUR.
A, Prothyron; B, Court; C, Colonnades; D, Aithousa; E, Prodromos; F, Megaron;
a, Altar; b, Hearth; m, Guard-rooms; x, Direction of Women's Apartments.

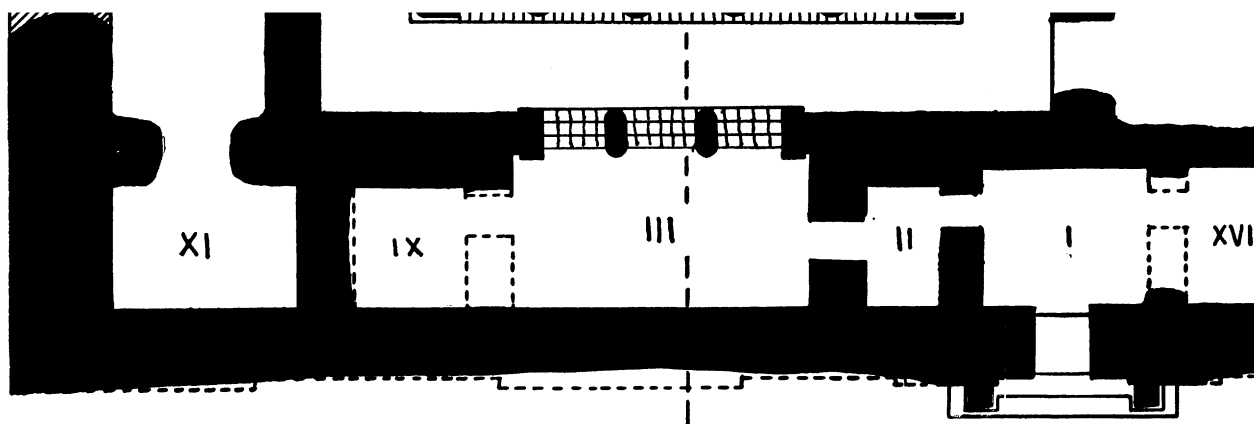
to which some Mycenaeans migrated after their expulsion from the mainland of Europe by the Dorians. Already we have some slight reasons for this belief in the curious gap in the otherwise very full chronology of the Babylonian and Assyrian empires. From *c.* 1100 B.C. to 950 B.C. we have a period full of unrest, of vague and mysterious mentions of strange races invading the land, who are called in one part of the country by

one name, and in other parts by another, and finally the total absence of records of the descendants of the older dynasties. Not until the later date do we find them reasserting themselves and reviving their ancient kingdoms with some degree of strength and prosperity. These questions cover a great field and cannot be adequately treated in the space of a short article. I hope in a future work to take up the whole subject in connection with a more detailed account of the palace that is dealt with in this paper.

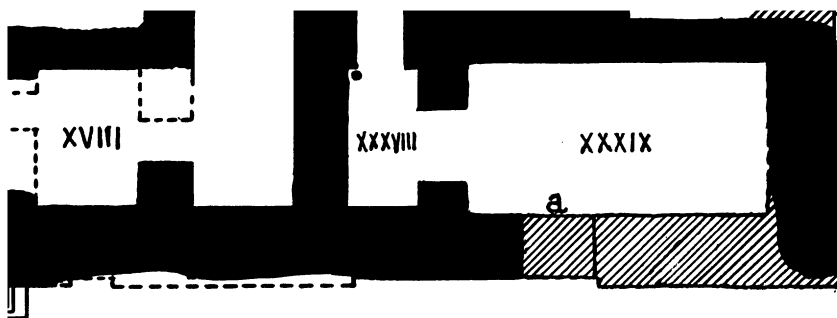
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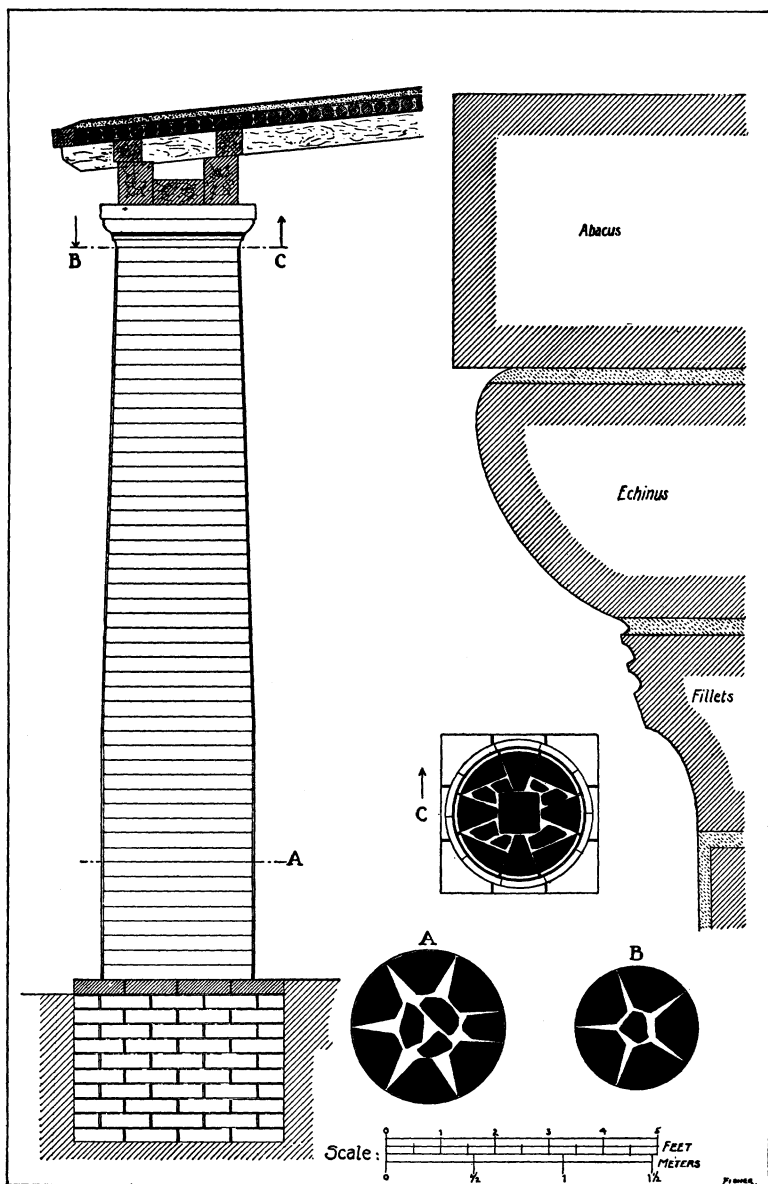




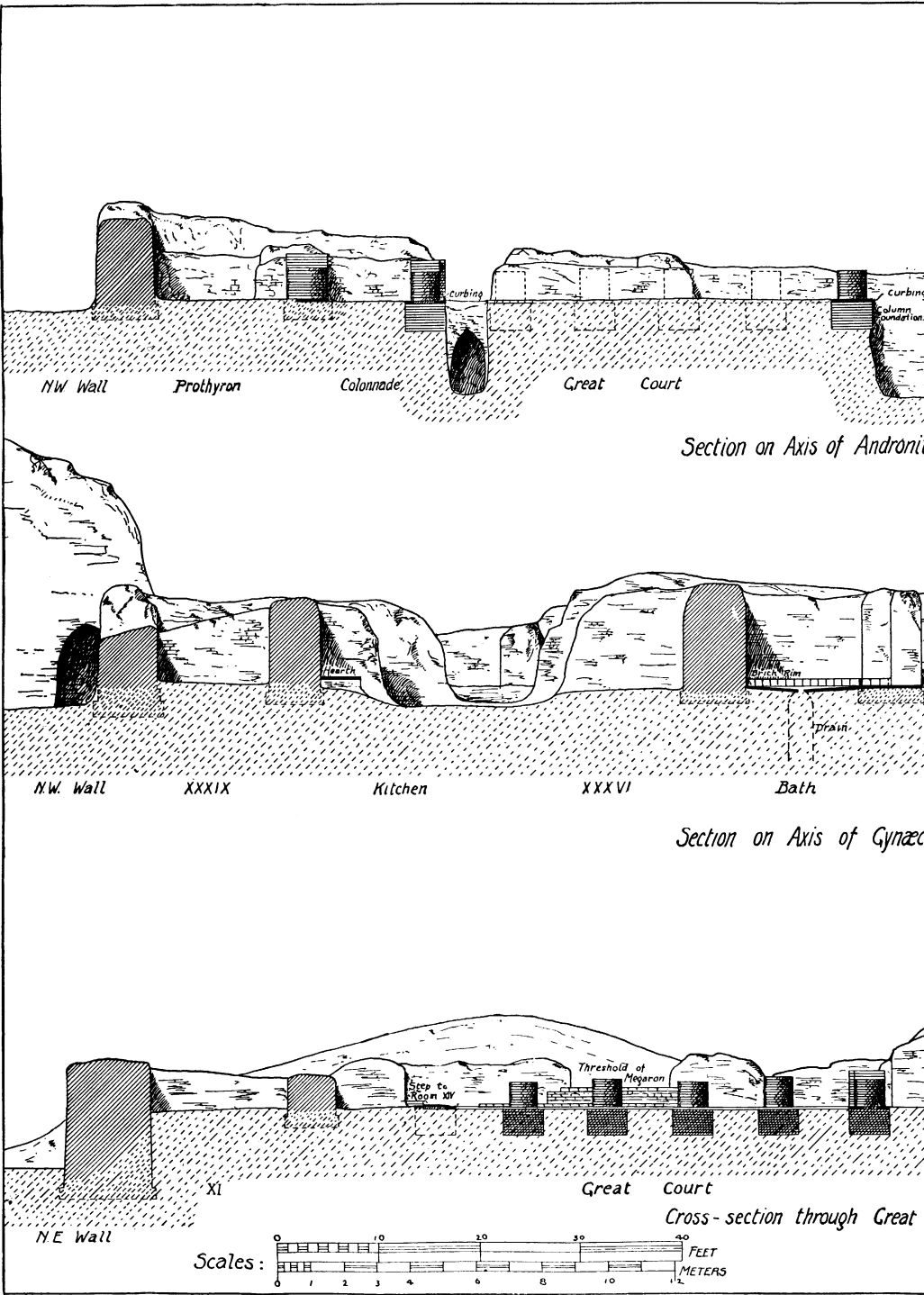
GENERAL PLAN OF THE PALACE AT NIPPUR



T NIPPUR



DETAILS FROM THE PALACE AT NIPPUR: THE COLUMNS IN THE PERISTYLE COURT



SECTIONS SHOWING THE ACTUAL

